

Notice of Allowability

Application No.

10/526,670

Examiner

Robert W. Horn

Applicant(s)

SATO, HIDEAKI

Art Unit

2837

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendments and remarks dated 3/31/2006.
2. ☒ The allowed claim(s) is/are 3-8 and 13-24.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 7/2/05
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 20060603.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.


LINCOLN DONOVAN
SUPERVISORY PATENT EXAMINER

DETAILED ACTION

Response to Amendment

The examiner acknowledges amendments dated 3/29/2006. With the amendments claims 1, 2 and 9-12 have been cancelled; claims 3, 4, and 8 have been amended and claims 13 to 24 have been added. The amendments are accepted as proper because no new material has been added into the application. The examiner notes that the applicant has amended claims 3, 4 and 8 to incorporate the limitations from allowable but objected claims.

Response to Arguments

Applicant's arguments, see Remarks, filed 3/29/2006, with respect to the amended and new claims have been fully considered and are persuasive.

Examiner's Amendment

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Michael A. Makuch on 6/6/2006.

The application has been amended as follows:

Page 1, line 14 "devises" to --devices--

Page 3, line 24 "circumference" to --circumstance--

Page 12, line 33 "deviance" to --deviation--

Page 22, line 36 "condenser 74" to --servo amplifier 74—

Page 26, line 35 "drop" to —drops—

Allowable Subject Matter

Claim 3-8 and 13-24 allowed.

The following is an examiner's statement of reasons for allowance:

Claim 3 is allowable a rotation driving apparatus, having a motor at least rotating at a high speed and a low speed, a torque generating circuit for generating a torque of the motor by a supply voltage from a power source, a motor control circuit for controlling rotation of the motor, a rotation detector for detecting a rotating speed of the motor and transmitting a detection signal to the motor control circuit and controller for delivering the rotating speed of the motor and a number of revolutions thereof to and from the motor control circuit, wherein

the torque generating circuit includes a voltage detector for detecting a level of the supply voltage and a period of voltage drop the voltage detector transmitting a voltage-drop information to the controller,

the controller memorizes power-recovery information including a voltage drop and a period thereof under an instantaneous blackout recoverable within a predetermined period and motion-control pattern information of the motor corresponding to the power-recovery information, in advance, and

the controller controls rotation of the motor upon comparing the voltage-drop information, the power-recovery information and the rotation-control pattern information of the motor with each other,

the rotation-control pattern information of the motor has ranges of an accelerating rotation, a constant high-speed rotation and a decelerating rotation, such that when the voltage detector detects a voltage drop during the accelerating rotation of the motor, the controller outputs control signals for: decelerating rotation of the motor; next rotating the motor at a constant speed; and after the power recovery, accelerating rotation of the motor.

The special inventive feature is the last limitation which specifies functions that the motor can be controlled to perform in response to the controller comparing stored and detected information after an instantaneous blackout/power recovery cycle.

Claim 4 is allowable for the same basic function as claim 4 and the limitation:

the rotation-control pattern information of the motor has ranges of an accelerating rotation, a constant high-speed rotation and a decelerating rotation, such that when the voltage detector detects a voltage drop during the accelerating rotation of the motor, the control means outputs control signals for: decelerating rotation of the motor; next rotating the motor at a constant speed; and after the power recovery, compensating the accelerating rotation of the motor at the voltage drop.

The limitation of compensating the accelerating rotation of the motor at the voltage drop is not featured in claim 3.

Claim 8 is allowable for the same basic function as claim 4, and the limitation:

the controller controls the rotation of the motor upon comparing the voltage drop information, the power-recovery information and the rotation-control pattern information of the motor with each other such that when the voltage detector detects a voltage drop

during the accelerating rotation of the motor, the control means outputs control signals for: decelerating rotation of the motor; next rotating the motor at a constant speed; and stopping rotation of the motor if time has passed a period of the instantaneous blackout.

The limitation not shown in claim 3 is the stopping of the rotation of the motor if time has passed a period of instantaneous blackout.

Claim 13 is allowable for the same basic function as claim 4, and the limitation: the controller compares the voltage-drop information and the power-recovery information to determine whether the instantaneous blackout recoverable within a predetermined period has occurred, and controls the rotation of the motor on the basis of the rotation-control pattern information of the motor corresponding to the power-recovery information when the instantaneous blackout has occurred.

The limitation not shown in claim 3, concerns determining on the basis of memorized information whether power recovery has occurred within a pre-determined period, then decides what rotation pattern to apply.

Claim 21 features nearly the same limitations as claim 13, except it specifies the motor control circuit (figure 8, item 73) rather than the controller (figure 12, item 70), performs the function:

the motor control circuit compares the voltage-drop information and the power-recovery information to determine whether the instantaneous blackout recoverable within a predetermined period has occurred, and controls the rotation of the motor on the basis of the rotation-control pattern information of the motor corresponding to the power-recovery information when the instantaneous blackout has occurred.

Essential to claims 3, 4, 8, 13, 21 and 22, but not explicitly spelled out in the claims, is the aspect that the motor and control system or method conduct a time sensitive process of rotating an object under processing steps and the controller determines, in the context of an instantaneous blackout and the length of time before power-recovery, what control function will allow the processing of the object to usefully continue and whether the processing can be usefully continued. Each claim includes memorization of the voltage drop, period of voltage drop and rotation pattern and a function to compare the memorized information with power recovery information and an additional function unique to each claim, described above.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The applicant is pointed to the references listed in the form 892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert W. Horn whose telephone number is 571-272-8591. The examiner can normally be reached on Monday-Friday 7:00-3:30 EST.

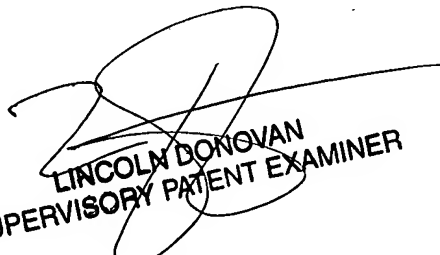
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lincoln D. Donovan can be reached on 571-272-2800, ext 33. The fax

Art Unit: 2837

phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

rwh
June 5, 2006


LINCOLN DONOVAN
SUPERVISORY PATENT EXAMINER